



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,601	01/24/2006	Kenichiro Tanaka	P29101	2841
7055 7590 08/20/2008 GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191				
EXAMINER NGUYEN, JOSEPH H				
ART UNIT 2815		PAPER NUMBER		
NOTIFICATION DATE 08/20/2008		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com
pto@gbpatent.com

Office Action Summary

Application No.

10/565,601

Applicant(s)

TANAKA ET AL.

Examiner

JOSEPH NGUYEN

Art Unit

2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2008.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
4a) Of the above claim(s) 5-18 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-4 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 24 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date 4/24/06.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
5) ☐ Notice of Informal Patent Application.
6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of group I including claims 1-4 in the reply filed on 05/12/2008 is acknowledged. The traversal is on the ground(s) that the Examiner fails to determine unity of invention with the criteria set forth in 37 C.F.R. 1.475. This is not found persuasive because the Examiner has determined the lack of unity of invention with the criteria set forth in 37 C.F.R. 1.475. For instance, in this case, the criterion is "a product and a process specially adapted for the manufacture of said product" is used to determine the lack of unity of invention. The Examiner has asserted that a different manufacture process disclosed in the prior art (EP 0921577) forms a device that is structurally similar to that of claim 1. See figures 6A and 6B of EP 0921577. As such, there is a process other than the process claim 6 that can be used to form a structurally similar device set forth in claim 1. Therefore, the subject matter common to groups I and II does not relate to an inventive concept.

The requirement is still deemed proper and is therefore made FINAL.

Claim Objections

2. Claim 1 is objected to because of the following informalities:
 3. In claim 1, line 13, the word "VIA's" should be corrected to read, "vias".
- Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Oohata (U.S. Publication No. 2003/0160258) of record by applicant.

Regarding claim 1, Oohata discloses in figure 1 a light emitting device formed by depositing p type and n type nitride semiconductor layers (3, 1), comprising semiconductor surface electrodes (9, 5) to apply currents into each of the semiconductor layers; an insulating layer (4) which holds the semiconductor layers; and mount surface electrodes (11, 8) provided on one surface of the insulating layer which is opposite to the other surface of the insulating layer where the semiconductor surface electrodes are made; wherein one of the semiconductor layers (1) has a bottom surface area (non-deposited area) where the other semiconductor layer (3) is not deposited; one of the semiconductor surface electrodes (5) is built up on the surface of the non-deposited area; vias (7, 9) are made in the insulating layer which connects electrically the semiconductor surface electrodes (9, 5) and the mount surface electrodes (11, 8); and the semiconductor surface electrodes (9, 5), the insulating layer (4), and the mount surface electrodes (11, 8) are built up in this order on one side of the deposited semiconductor layers.

It is noted that Oohata teaches in paragraph [0056] the light emitting diode comprising n type nitride layer 1 and p type nitride layer 3 is epitaxially grown (deposition process) on a sapphire substrate. As such, Oohata teaches the p type and n type nitride semiconductor layers are deposited. Further, the n type layer 1 has the bottom surface area where the p type layer 3 is clearly not deposited. Therefore, this bottom surface area of the n type layer 1 can be construed as "non-deposited area" as claimed.

Regarding claim 2, Oohata discloses in paragraph [0056] the insulating layer (4) is made of resin.

Regarding claim 3, Oohata discloses in figure 1 the via is filled with electric conductor (paragraph [0057] where via 6 connects electrically with electrode 5 via electrode 6).

6. Claim1 is rejected under 35 U.S.C. 102(b) as being anticipated by Inoue et al. (U.S. Publication No. 2002/0081773) of record by applicant.

Regarding claim 1, Inoue et al. discloses in figure 8B a light emitting device formed by depositing p type and n type nitride semiconductor layers (35, 32), comprising semiconductor surface electrodes (5, 6) to apply currents into each of the semiconductor layers; an insulating layer (39) which holds the semiconductor layers; and mount surface electrodes (25, 24) provided on one surface of the insulating layer

which is opposite to the other surface of the insulating layer where the semiconductor surface electrodes are made; wherein one of the semiconductor layers (32) has non-deposited area where the other semiconductor layer (35) is not deposited; one of the semiconductor surface electrodes (6) is built up on the surface of the non-deposited area; vias (openings) are made in the insulating layer which connects electrically the semiconductor surface electrodes (5, 6) and the mount surface electrodes (25, 24); and the semiconductor surface electrodes (5, 6), the insulating layer (39), and the mount surface electrodes (25, 24) are built up in this order on one side of the deposited semiconductor layers. See page 10 for more details.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oohata in view of Lowery et al. (U.S. Patent No. 6,878,973).

Regarding claim 4, Oohata discloses substantially all the structures set forth in claim 4 except for phosphor being provided on the surface of the semiconductor layer. Lowery et al. discloses in figure 2 a nitride light emitting device comprising phosphor 17 is provided on a surface of the semiconductor layer 23 so as to reduce contamination of the light emitting diode by the phosphor material (Abstract). In view of such teaching, it

would have been obvious at the time of the present invention to modify Oohata by including phosphor being provided on the surface of the semiconductor layer so as to reduce contamination of the light emitting diode by the phosphor material.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Nguyen whose telephone number is (571) 272-1734. The examiner can normally be reached on Monday-Friday, 8:30 am- 5:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Parker can be reached on (571) 272-2298. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300 for regular communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Joseph Nguyen/
Examiner, Art Unit 2815
/Kenneth A Parker/
Supervisory Patent Examiner, Art Unit 2815